WHAT IS CLAIMED IS:

1. A microphone for converting sound into an audio signal, comprising:

a housing defining an inner volume;

a diaphragm dividing said inner volume into a front volume and a rear volume, said diaphragm undergoing movement in response to said sound;

a damping element positioned against said diaphragm; and

a backplate positioned in said rear volume adjacent said damping element to define an aperture bounded by a portion of said backplate and a portion of said damping element, said aperture causing the frequency response curve of said microphone to be dampened.

2. The microphone of claim 1, wherein said housing includes a floor, said diaphragm including a membrane frame and a membrane disposed across a surface of said membrane frame, said membrane frame contacting said floor.

3. The microphone of claim 1, wherein said damping element has an outer perimeter, said damping element having a clamping member formed along said outer perimeter and contacting an inner portion of said housing, said clamping member holding said spacer in a fixed position within said housing.

4. The microphone of claim 3, wherein said damping element includes an opening, said opening being dimensioned to hold said backplate within said opening.

5. The microphone of claim 4, wherein said backplate includes a bottom surface opposing said diaphragm, said bottom surface having at least one standoff disposed thereon, said at least one standoff contacting said diaphragm.

6. The microphone of claim 1, wherein said backplate is positioned to define at least two apertures bounded by portions of said backplate and portions of said damping element, said at least two apertures causing the movement of said diaphragm to be affected in response to said sound.

7. The microphone of claim 6, wherein said at least two apertures dampens the frequency response curve of said microphone at a range of about 2 kHz to about 10 kHz.

8. The microphone of claim 1, wherein said housing includes a bottom surface having at least one support member, said diaphragm being mounted on said at least one support member.

9. The microphone of claim 8, wherein said support member is an embossment formed by deforming said housing to create a protrusion extending into said inner volume of said housing.

10. The microphone of claim 8, wherein the bottom surface of said housing includes at least three support members.

11. The microphone of claim 1, wherein said diaphragm includes a pressure vent for equalizing pressure between said front volume and said rear volume.

12. The microphone of claim 1, wherein said damping element is made of a polyimide material.

13. The microphone of claim 1, wherein said damping element is made of Kapton.

14. The microphone of claim 1, wherein said backplate has a charged surface opposing said diaphragm.

15. The microphone of claim 14, wherein said charged surface is Teflon.

16. The microphone of claim 1, wherein the thickness of said damping element is at least about 125 microns.

17. The microphone of claim 1, wherein the thickness of said damping element is at least about 50 microns.

18. The microphone of claim 1, wherein the thickness of said damping element is less than about 37.5 microns.

19. The microphone of claim 1, wherein the thickness of said damping element is between about 37.5 microns and about 50 microns.

20. The microphone of claim 1, wherein the thickness of said damping element is about 35 microns.

21. The microphone of claim 1, wherein said front volume lacks structure for dampening the frequency response curve of said microphone.

22. The microphone of claim 1, wherein said damping element serves as a spacer to maintain a predetermined distance between said diaphragm and said backplate.

23. The microphone of claim 1, wherein said diaphragm is dimensioned to prevent debris from entering said rear volume.

24. The microphone of claim 1, wherein said aperture dampens the frequency response curve at a range of about 2 kHz to about 10 kHz.

25. A microphone comprising:

a cartridge including a membrane, a membrane frame, a damping frame, and a backplate, said membrane being disposed across a surface of said membrane frame, said damping frame opposing said membrane frame and defining an opening having an inner edge, said backplate opposing said damping frame and defining an aperture bounded by a portion of an outer edge of said backplate and a portion of said inner edge of said damping frame, wherein said aperture is dimensioned to dampen a frequency response curve of said microphone.

26. The microphone of claim 25, wherein the cartridge has a thickness of about 300 microns.

27. The microphone of claim 25, wherein said damping frame has a thickness of about 125 microns.

28. The microphone of claim 25, wherein said damping frame has a thickness of about 50 microns.

29. The microphone of claim 25, wherein said damping frame is positioned away from said diaphragm by a distance to achieve squeezed film damping.

30. The microphone of claim 25, wherein said backplate is secured to said damping element with adhesive.

31. The microphone of claim 25, wherein the positioning of said damping element against said backplate defines a first aperture opposite a second aperture, said first aperture being bounded by a first edge portion of said damping element and a first edge portion of said backplate, said second aperture being bounded by a second edge portion of said damping element and a second edge portion of said backplate.

32. The microphone of claim 31, wherein said first aperture and said second aperture have substantially the same dimensions.

33. The microphone of claim 25, wherein said damping element includes at least one clamping member disposed along an outer edge of said damping element, said clamping member contacting said housing to secure said damping element within said housing.

34. A microphone comprising:

a diaphragm having a membrane frame and a membrane disposed across a surface of said membrane frame, said membrane defining a front volume and a rear volume in said microphone;

a damping frame positioned in said rear volume and against said membrane, said damping frame having an inner surface defining an opening; and

a backplate positioned adjacent said damping frame and defining an aperture bounded by a portion of said backplate and a portion of said inner surface of said damping frame, said aperture being dimensioned to dampen a frequency response curve of said microphone.

35. The microphone of claim 34, wherein said backplate is mounted on said damping frame.

36. The microphone of claim 34, wherein said backplate is positioned within said damping frame.

37. The microphone of claim 34, wherein said membrane comprises a pressure vent for equalizing pressure between said front volume and said rear volume.

38. A microphone comprising:

a diaphragm;

a backplate opposing said diaphragm;

a spacer element for maintaining an appropriate spacing between said diaphragm and said backplate;

a housing having first, second, and third interacting sound chambers, said first sound chamber being substantially defined by walls of said housing and said diaphragm, said second sound chamber being substantially defined by said diaphragm, said backplate, and said spacer, said third sound chamber being substantially defined by said backplate and walls of said housing;

at least one aperture defined by at least one of said backplate and said spacer element, said aperture connecting said second and third sound chambers and having selected dimensional characteristics for dampening a frequency response curve for said microphone.

39. The microphone of claim 38, wherein the relative size of said sound chambers in increasing order from smallest to largest is said second sound chamber, said first sound chamber, and said third sound chamber.

40. The microphone of 38, wherein said at least one aperture is exactly one aperture.

41. The microphone of 38, wherein said at least one aperture is exactly two apertures.

42. The microphone of 38, wherein said at least one aperture is at least two apertures.

43. The microphone of 38, wherein said at least one aperture is exactly four apertures.

44. The microphone of 38, wherein said at least one aperture has a length of about 0.5 mm and a width of about 0.5 mm.

45. The microphone of claim 44, wherein said at least one aperture has a thickness of at least about 50 microns.

46. The microphone of claim 44, wherein said at least one aperture has a thickness of less than about 37.5 microns.

47. The microphone of claim 38, wherein said dampening reduces said frequency response curve at a range of about 2 kHz to about 10 kHz.

48. A microphone comprising:

a diaphragm capable of movement in response to an acoustical signal;

a backplate opposing said diaphragm, said movement of said diaphragm relative to said backplate causing an audio signal corresponding to said acoustical signal;

a spacer element for maintaining an appropriate spacing between said diaphragm and said backplate;

a front volume on one side of said diaphragm for transmitting said acoustical signal to said diaphragm; and

a rear volume on the other side of said diaphragm, said rear volume including a small region between said backplate and said diaphragm and a large region adjacent to said small region, said small region and said large region being connected by at least one aperture, said aperture being dimensioned to provide dampening of a frequency response curve for acoustical signals in the range from about 2 kHz to about 10 kHz.

49. The microphone of claim 48, wherein said aperture is defined entirely by said spacer element.

50. The microphone of claim 48, wherein said aperture is defined by said spacer and said backplate.

51. The microphone of claim 48, wherein said aperture is defined entirely by said backplate.

52. A method of dampening a frequency response curve of a microphone, comprising:

assembling a cartridge including a diaphragm, a backplate, and a spacer element for maintaining a certain dimension between said diaphragm and said backplate, said backplate and spacer element defining an aperture; and

installing said cartridge in a housing of said microphone such that said aperture connects air between said diaphragm and backplate with a larger volume of air behind said backplate.

53. A method of assembling a microphone having a dampened frequency response, comprising the steps of:

providing a first production sheet including a plurality of damping frames, said first production sheet including a plurality of first registration holes;

providing a second production sheet including a plurality of diaphragms, said second production sheet including a plurality of second registration holes;

disposing an adhesive layer on a surface of said first production sheet;

positioning said adhesive layer of said first production sheet to oppose said second production sheet;

urging said first production sheet and said second production sheet together to form a carrier sheet;

aligning said first registration holes with said second registration holes such that when said carrier sheet is formed, said first registration holes and said second registration holes are substantially aligned; and

singulating a plurality of subassemblies from said carrier sheet, each subassembly including a diaphragm and a damping frame.

54. The method of claim 53 further comprising the steps of:

positioning a backplate against one of said plurality of subassemblies to form a cartridge, wherein said positioning forms an aperture between said backplate and said damping frame; and

placing said cartridge into a housing.

55. The method of claim 53 further comprising the step of clamping said first production sheet into a tool.

56. The method of claim 53, wherein said forming a plurality of damping frames is carried out using a laser beam.

57. The method of claim 53, wherein said first production sheet includes a 15x15 matrix of diaphragms, said second production sheet includes a 15x15 matrix of damping frames, and wherein said plurality of diaphragms is exactly 225 and said plurality of damping frames is exactly 225.

58. The method of claim 53 further comprising the step of heating said carrier sheet until said adhesive layer is cured.

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